Determination of Potential Agricultural Conservation Savings (Low End of Range)
Colorado River

Input Data from DWR

Applied Water	2,812	(1,000 af)
Depletion	2,742	(1,000 af)
ET of Applied Water	2,177	(1,000 af)

Assumptions for Calculations

1. Ave. Leaching Fraction = 14%

2. % lost to Channel Evap/ET [3] = 4%

3. Assumed allocation of conservation betw District and On-farm
district portion = 1/3 of savings * "adjustment factor"

canal lining:	1	
tailwater:	2	(adjustment factor
flexibility:	1	based on region variation
meas/price:	1	in water districts)
	5	(points for this region's districts of 4 points for average)
	1.25	**= adjustment factor**
	42%	= district portion
	58%	= on-farm portion

Calculations from Input Data

	(1,000 af)	
Total Existing Losses	**635**	(Diff betw. Applied Water and ETAW)
Total Irrecoverable losses	**565**	(Diff betw. Depletion and ETAW)
Total Recoverable losses	**70**	(Diff betw. Applied Water and Depletion)
Ratio of Irrecoverable Loss	89%	(Irrecov divided by total existing losses)
Portion lost to leaching	271	(Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor)
Portion lost to Channel Evap/ET	112	(Applied Water * % lost to Channel Evap/ET)
Total Loss Conservation Potential	251	(Total Existing loss - portion to leaching - portion to channel evap/ET)
Irrecoverable Portion	**181**	(Irrec loss - portion to leaching - portion lost to channel evap/ET)
Recoverable Portion	**70**	(Total Existing loss - Irrecoverable Loss Portion)

Incremental Distribution of Conservable Portion of Losses

		Distrib. Factor	Applied Water Reduction [1] (1,000 ac-ft)	Irrec. Loss Reduction [2] (1,000 ac-ft)	Rec. Loss Reduction (1,000 ac-ft)
No Action Increment =	1st 40%	0.40	101	73	28
CALFED Increment =	next 30%	0.30	75	54	21
Remaining =	final 30%	0.30	75	54	21
			251	181	70

Summary of Savings:

Existing Applied Water Use = 2,812

Total Potential Reduction of Application

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	59	44	103
District	--	42	31	73
Total	635	101	75	176

Recovered Losses with Potential for Rerouting Flows

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	16	12	28
District	--	12	9	21
Total	70	28	21	49

Potential for Recovering Currently Irrecoverable Losses

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	42	32	74
District	--	30	23	53
Total	565	73	54	127

Notes:
1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under No Action. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
3. Derived from comparing consumptive conveyance loss values from USBR *Least-Cost CVP Yield Increase Plan*, T.A #3 (Sept. 1995) to applied water values for the region. A range of 2 to 4% was used to account for uncertainty. This value accounts for consumption by bank and riparian vegetation and channel evaporation.

Determination of Potential Agricultural Conservation Savings (High End of Range)
Colorado River

Input Data from DWR

Applied Water	2,812	(1,000 af)
Depletion	2,742	(1,000 af)
ET of Applied Water	2,177	(1,000 af)

Assumptions for Calculations

1. Ave. Leaching Fraction = 10%

2. % lost to Channel Evap/ET [3] = 2%

3. Assumed allocation of conservation betw District and On-farm
district portion = 1/3 of savings * "adjustment factor"

canal lining:	1	
tailwater:	2	(adjustment factor
flexibility:	1	based on region variation
meas/price:	1	in water districts)
	5	(points for this region's districts of 4 points for average)
	1.25	**= adjustment factor**

42% = district portion

58% = on-farm portion

Calculations from Input Data

	(1,000 af)	
Total Existing Losses	**635**	(Diff betw. Applied Water and ETAW)
Total Irrecoverable losses	**565**	(Diff betw. Depletion and ETAW)
Total Recoverable losses	**70**	(Diff betw. Applied Water and Depletion)
Ratio of Irrecoverable Loss	89%	(Irrecov divided by total existing losses)
Portion lost to leaching	194	(Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor)
Portion lost to Channel Evap/ET	56	(Applied Water * % lost to Channel Evap/ET)
Total Loss Conservation Potential	385	(Total Existing loss - portion to leaching - portion to channel evap/ET)
Irrecoverable Portion	**315**	(Irrec loss - portion to leaching - portion lost to channel evap/ET)
Recoverable Portion	**70**	(Total Existing loss - Irrecoverable Loss Portion)

Incremental Distribution of Conservable Portion of Losses

		Distrib. Factor	Applied Water Reduction [1] (1,000 ac-ft)	Irrec. Loss Reduction [2] (1,000 ac-ft)	Rec. Loss Reduction (1,000 ac-ft)
No Action Increment =	1st 40%	0.40	154	126	28
CALFED Increment =	next 30%	0.30	116	95	21
Remaining =	final 30%	0.30	116	95	21
			385	315	70

Summary of Savings:

Existing Applied Water Use = 2,812

Total Potential Reduction of Application

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	90	67	157
District	--	64	48	112
Total	635	154	116	270

Recovered Losses with Potential for Rerouting Flows

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	16	12	28
District	--	12	9	21
Total	70	28	21	49

Potential for Recovering Currently Irrecoverable Losses

(1,000af)	Existing	No Action	CALFED	Total
On-Farm	--	74	55	129
District	--	52	39	91
Total	565	126	95	221

Notes:
1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under No Action. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
3. Derived from comparing consumptive conveyance loss values from USBR *Least-Cost CVP Yield Increase Plan*, T.A #3 (Sept. 1995) to applied water values for the region. A range of 2 to 4% was used to account for uncertainty. This value accounts for consumption by bank and riparian vegetation and channel evaporation.